

**CAM CELLS FOR HIGH SPEED AND LOWER POWER**  
**CONTENT ADDRESSABLE MEMORY (CAM) AND TERNARY CONTENT**  
**ADDRESSABLE MEMORY (TCAM)**

**ABSTRACT OF THE DISCLOSURE**

A few dummy Content-addressable memory (CAM) cells and a few dummy Ternary Content-addressable memory (TCAM) cells which connect to each corresponding row in CAM and TCAM array to enable or disable the comparison in differential match line sensing based on the content stored. the Ternary content-addressable memory (TCAM) cells are disclosed for differential match line sensing in low power application. Methods which generate the voltage difference between match line signal and reference line signal, then detect and amplify it to determine match or mismatch are described.